



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,564	03/29/2004	Michael F. Lueck	12201-014	1232
1059 7590 05/13/2008 BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA				
EXAMINER SHAH, PARAS D				
ART UNIT 2626		PAPER NUMBER		
MAIL DATE 05/13/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/810,564

Applicant(s)

LUECK, MICHAEL F.

Examiner

PARAS SHAH

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10 and 12-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10 and 12-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)
Paper No(s)/Mail Date 02/26/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the RCE filed on 03/27/2008. Claims 1, 3-10, 12-19 remain pending, while claims 20-26 are newly amended. The Applicants' amendment and remarks have been carefully considered, but they are moot in view of new grounds for rejection.
2. All previous objections and rejections directed to the Applicant's disclosure and claims not discussed in this Office Action have been withdrawn by the Examiner.

Change of Examiner

3. It should be noted that the Examiner for this Application has changed from Joel Stoffregen to Paras Shah.

Response to Amendment

4. This communication is in response to applicant's amendment dated 03/27/2008. The applicant amended claims 1 and 10 and added new claims 20-26. Claims 1, 3-10, and 12-26 are currently pending in this application.

Response to Arguments

5. Applicant's arguments filed 03/27/2008 with respect to claims 1, 7-10, and 15-19 have been fully considered but are moot in view of the new ground(s) of rejection Applicant's.

Information Disclosure Statement

6. The information disclosure statement (IDS) submitted on 02/26/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 3-10, 12-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. As to claims 1, 10, and 20, the limitation "adapted to" is held to be indefinite since it suggests optional language. See MPEP 2111.04.
10. Claims 3-9, 12-19, and 21-26 are rejected as being based upon an indefinite base claim.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 1-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alleva et al., Patent No. US 5,970,449 ("ALLEVA") in view of Hummel et al., Patent No. US 7,020,601 ("HUMMEL").

13. Regarding **claim 1**, ALLEVA teaches a configurable formatting system for generating a desired representation of an expression within a word list ("a context-free grammar is applied to perform the text normalization", ALLEVA, column 2, lines 59-60), said system comprising:

(a) a dictionary database ("context-free grammar 40", ALLEVA, column 5, line 26) for storing at least one category ("divided into three major sections ... '[spacing]', '[capitalization]', '[Rules]'", ALLEVA, column 5, lines 30-33), said category containing at least one word and at least one translation rule ("includes substitute text 54 that replaces the text that was output", ALLEVA, column 4, lines 56-57);

(b) a configuration file coupled to the dictionary database containing at least one variant to the contents of at least one category of the dictionary database ("the text file may be merely edited", ALLEVA, column 8, lines 54-55), said variant to the contents of at least one category being used to overwrite the contents of said at least one category within said dictionary database ("the tree is revised accordingly by reading the contents from the edited text file altering the tree in a matching fashion", ALLEVA, column 8, lines 58-60);

(c) a working list module coupled to the dictionary database for reading a word from the word list ("words are stored within a text buffer 122 that is used by the text

normalizer 38", ALLEVA, column 8, lines 4-5) and determining whether a word is associated with the expression by utilizing the categories of said dictionary database for said word ("processed by the text normalizer to determine whether there are any matching rules or not", ALLEVA, column 8, lines 6-7), said working list module being adapted to:

(i) insert the word into a working list if the word is associated with the expression (see ALLEVA, FIG. 9, words are inserted into the processed buffer 124);

(ii) process the working list when the word is associated with the termination of the expression ("a rule will be applied when at least a complete rule has been identified and no further portion of a rule can be applied", ALLEVA, column 7, lines 52-54, see also column 8, lines 1-27 for an example); and

(d) a formatting module coupled to the working list module for processing the words from the working list and generating the desired representation of the expression from the working list (see ALLEVA, column 8, lines 1-27, FIG. 9, the text normalizer 38 applies the rules).

However, ALLEVA does not disclose dynamically identifying the contextual state of a word.

In the same field of text normalization, HUMMEL teaches identifying the contextual state of a word (placeable determined based on context and environment, HUMMEL, column 4, lines 3-10 and see col. 4, lines 23-26, placeable is identified in order to facilitate subsequent handling and see col.7, lines 25-31, 44-51, the

determination of a date is determined using views of the entire token) (e.g. The said identifying is dynamic where each placeable is identified and converted based on determiner placeable type.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made check the context as taught by HUMMEL on the normalizations used by ALLEVA in order to improve the translation of data not requiring translation to provide a proper selection of the word (see HUMMEL col. 3, lines 12-16 and lines 60-67)

14. Regarding **claim 3**, ALLEVA further teaches that the working list module is adapted to be either in a NoCheck state or in a WordInNumber state according to the following:

(i) when working list is empty, working list module is in a NoCheck state (see ALLEVA, FIG. 7, node 100);

(ii) working list module enters into a WordInNumber state when the word being read is associated with the expression (see ALLEVA, FIG. 7, node 102); and

(iii) working list module returns to the NoCheck state when the word being read is associated with the termination of the expression ("a rule will be applied when at least a complete rule has been identified and no further portion of a rule can be applied", ALLEVA, column 7, lines 52-54, see also ALLEVA, column 8, lines 1-27 for an example).

15. Regarding **claim 4**, ALLEVA further teaches that said working list module is further adapted to determine whether a word is associated with the expression, by:

(iv) determining whether the working list module is in the WordInNumber state ('the number rule 128 is applied to replace 'twenty' with '20"', ALLEVA, column 8, lines 23-24);

(v) determining whether the working list module is in the NoCheck state and the word is a numeral ("the first word, 'five,' is processed ... there will be a match within the digit rule 126 for this word", ALLEVA, column 8, lines 5-8); and

(vi) if either (iv) or (v) is true then determining that the word is associated with the expression (see ALLEVA, FIG. 9).

16. Regarding **claim 5**, ALLEVA further teaches that the word is associated with the termination of an expression when the word is a punctuation character ("if a period is followed by a space, two spaces are to be substituted for the single space", ALLEVA, column 5, lines 49-52).

17. Regarding **claim 6**, ALLEVA further teaches that the word is associated with the termination of an expression when the word is not present within any of the categories of the dictionary database ("before applying the rule, the text normalizer 38 looks at the next word 'chickens' as there is no rule that applies to the phrase 'five chickens,' the text normalizer 38 knows that it is done", ALLEVA, column 8, lines 8-11).

18. Regarding **claim 7**, ALLEVA further teaches that said formatting module is adapted to look up the category associated with a word within the dictionary database (see ALLEVA, FIG. 9, rules 126, 128, and 130).

19. Regarding **claim 8**, ALLEVA further teaches that said formatting module formats the word according to the translation rule associated with the category associated with the word (see ALLEVA, FIG. 9).

20. Regarding **claim 9**, ALLEVA further teaches that the category for the word is used to format the word in association with another word within working list ("the system seeks to apply the rule that will normalize the greatest length string within the text", ALLEVA, column 7, lines 48-49, see also column 8, lines 1-27 for an example).

21. Regarding **claim 10**, ALLEVA teaches a configurable formatting method for generating a representation of an expression within a recognized word list ("a context-free grammar is applied to perform the text normalization", ALLEVA, column 2, lines 59-60), said method comprising:

(a) storing at least one category ("divided into three major sections ... '[spacing]', '[capitalization]', '[Rules]'", ALLEVA, column 5, lines 30-33) in a dictionary database ("context-free grammar 40", ALLEVA, column 5, line 26), said category containing at least one word and at least one translation rule ("includes substitute text 54 that replaces the text that was output", ALLEVA, column 4, lines 56-57);

(b) storing at least one variant to the contents of at least one category of the dictionary database in a configuration file ("the text file may be merely edited", ALLEVA, column 8, lines 54-55) and using the contents of at least one category to overwrite the contents of said at least one category within said dictionary database ("the tree is revised accordingly by reading the contents from the edited text file altering the tree in a matching fashion", ALLEVA, column 8, lines 58-60);

(c) reading a word from the word list ("words are stored within a text buffer 122 that is used by the text normalizer 38", ALLEVA, column 8, lines 4-5) and determining whether the word is associated with the expression by utilizing the categories of said dictionary database ("processed by the text normalizer to determine whether there are any matching rules or not", ALLEVA, column 8, lines 6-7);

(d) inserting the word into a working list if the word is associated with the expression (see ALLEVA, FIG. 9, words are inserted into the processed buffer 124);

(e) processing the working list when a word is associated with the termination of the expression ("a rule will be applied when at least a complete rule has been identified and no further portion of a rule can be applied", ALLEVA, column 7, lines 52-54, see also ALLEVA, column 8, lines 1-27 for an example); and

(f) formatting the words from the working list and generating the desired representation of the expression from the working list (see ALLEVA, column 8, lines 1-27, FIG. 9, the text normalizer 38 applies the rules).

However, ALLEVA does not disclose dynamically identifying the contextual state of a word.

In the same field of text normalization, HUMMEL teaches identifying the contextual state of a word (placeable determined based on context and environment, HUMMEL, column 4, lines 3-10 and see col. 4, lines 23-26, placeable is identified in order to facilitate subsequent handling and see col.7, lines 25-31, 44-51, the determination of a date is determined using views of the entire token) (e.g. The said identifying is dynamic where each placeable is identified and converted based on determiner placeable type.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made check the context as taught by HUMMEL on the normalizations used by ALLEVA in order to improve the translation of data not requiring translation to provide a proper selection of the word (see HUMMEL col. 3, lines 12-16 and lines 60-67).

22. Regarding **claim 12**, ALLEVA further teaches that (c) further comprises moving between a NoCheck state or in a WordInNumber state according to the following:

- (i) when working list is empty, being in a NoCheck state (see FIG. 7, node 100);
- (ii) entering into a WordInNumber state when the word being read is associated with the expression (see FIG. 7, node 102); and
- (iii) returning to the NoCheck state when the word being read is associated with the termination of the expression ("a rule will be applied when at least a complete rule has been identified and no further portion of a rule can be applied", column 7, lines 52-54, see also column 8, lines 1-27 for an example).

23. Regarding **claim 13**, ALLEVA further teaches that (c) further comprises:

(iv) determining whether the working list module is in the WordInNumber state ('the number rule 128 is applied to replace 'twenty' with '20"', column 8, lines 23-24);

(v) determining whether the working list module is in the NoCheck state and the word is a numeral ("the first word, 'five,' is processed ... there will be a match within the digit rule 126 for this word", column 8, lines 5-8); and

(vi) if either (iv) or (v) is true then determining that the word is associated with the expression (see FIG. 9).

24. Regarding **claim 14**, ALLEVA further teaches that the word is associated with the termination of an expression when the word is a punctuation character ("if a period is followed by a space, two spaces are to be substituted for the single space", column 5, lines 49-52).

25. Regarding **claim 15**, ALLEVA further teaches that the word is associated with the termination of an expression when the word is not present within any of the categories of the dictionary database ("before applying the rule, the text normalizer 38 looks at the next word 'chickens' as there is no rule that applies to the phrase 'five chickens,' the text normalizer 38 knows that it is done", column 8, lines 8-11).

26. Regarding **claim 16**, ALLEVA further teaches that (f) further comprises looking up the category associated with a word within the dictionary database (see FIG. 9, rules 126, 128, and 130).

27. Regarding **claim 17**, ALLEVA further teaches that the category associated with the word is used to format the word in association with another word within working list ("the system seeks to apply the rule that will normalize the greatest length string within the text", column 7, lines 48-49, see also column 8, lines 1-27 for an example).

28. Regarding **claim 18**, HUMMEL further teaches that list module is further adapted to determine whether the working list module is in the WordInNumber state or NoCheck state by utilizing a context indicia, where said context indicia tracks the contextual state of the working list module (see HUMMEL, column 7, lines 1-51, a series of rules defines the contextual state of the word) (e.g. The contextual state of the word is tracked by viewing the entire token for placeable type determination.).

29. Regarding **claim 19**, HUMMEL further teaches that (c) further comprises determining whether the working list module is in the WordInNumber state or NoCheck state by utilizing a context indicia, where said context indicia tracks the contextual state of the working list module (see HUMMEL, column 7, lines 1-51, a series of rules defines the contextual state of the word) (e.g. The contextual state of the word is tracked by viewing the entire token for placeable type determination.).

30. Regarding **claim 20**, ALLEVA teaches a configurable formatting system for generating a desired representation of an expression within a word list ("a context-free grammar is applied to perform the text normalization", ALLEVA, column 2, lines 59-60), said system comprising:

(a) a dictionary database ("context-free grammar 40", ALLEVA, column 5, line 26) for storing at least one category ("divided into three major sections ... '[spacing]', '[capitalization]', '[Rules]'", ALLEVA, column 5, lines 30-33), said category containing at least one word and at least one translation rule ("includes substitute text 54 that replaces the text that was output", ALLEVA, column 4, lines 56-57);

(b) a configuration file coupled to the dictionary database containing at least one variant to the contents of at least one category of the dictionary database ("the text file may be merely edited", ALLEVA, column 8, lines 54-55), said variant to the contents of at least one category being used to overwrite the contents of said at least one category within said dictionary database ("the tree is revised accordingly by reading the contents from the edited text file altering the tree in a matching fashion", ALLEVA, column 8, lines 58-60);

(c) a working list module coupled to the dictionary database for reading a word from the word list ("words are stored within a text buffer 122 that is used by the text normalizer 38", ALLEVA, column 8, lines 4-5) and determining whether a word is associated with the expression by utilizing the categories of said dictionary database for said word ("processed by the text normalizer to determine whether there are any

matching rules or not", ALLEVA, column 8, lines 6-7), said working list module being adapted to:

(i) insert the word into a working list if the word is associated with the expression (see ALLEVA, FIG. 9, words are inserted into the processed buffer 124);

(ii) process the working list when the word is associated with the termination of the expression ("a rule will be applied when at least a complete rule has been identified and no further portion of a rule can be applied", ALLEVA, column 7, lines 52-54, see also column 8, lines 1-27 for an example); and

(d) a formatting module coupled to the working list module for processing the words from the working list and generating the desired representation of the expression from the working list (see ALLEVA column 8, lines 1-27, FIG. 9, the text normalizer 38 applies the rules) said formatting module is adapted to look up the category associated with a word within the dictionary database (see ALLEVA, FIG. 9, rules 126, 128, and 130).

However, ALLEVA does not disclose dynamically identifying the contextual state of a word.

In the same field of text normalization, HUMMEL teaches identifying the contextual state of a word (placeable determined based on context and environment, HUMMEL, column 4, lines 3-10 and see col. 4, lines 23-26, placeable is identified in order to facilitate subsequent handling and see col.7, lines 25-31, 44-51, the determination of a date is determined using views of the entire token) (e.g. The said

identifying is dynamic where each placeable is identified and converted based on determiner placeable type.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made check the context as taught by HUMMEL on the normalizations used by ALLEVA in order to improve the translation of data not requiring translation to provide a proper selection of the word (see HUMMEL col. 3, lines 12-16 and lines 60-67).

31. Regarding **claim 21**, ALLEVA further teaches that the category associated with the word is used to format the word in association with another word within working list ("the system seeks to apply the rule that will normalize the greatest length string within the text", column 7, lines 48-49, see also column 8, lines 1-27 for an example).

32. Regarding **claim 22**, ALLEVA further teaches that the working list module is adapted to be either in a NoCheck state or in a WordInNumber state according to the following:

(i) when working list is empty, working list module is in a NoCheck state (see ALLEVA, FIG. 7, node 100);

(ii) working list module enters into a WordInNumber state when the word being read is associated with the expression (see ALLEVA, FIG. 7, node 102); and

(iii) working list module returns to the NoCheck state when the word being read is associated with the termination of the expression ("a rule will be applied when at least a complete rule has been identified and no further portion of a rule can be applied",

ALLEVA, column 7, lines 52-54, see also ALLEVA, column 8, lines 1-27 for an example).

33. Regarding **claim 23**, ALLEVA further teaches that said working list module is further adapted to determine whether a word is associated with the expression, by:
(iv) determining whether the working list module is in the WordInNumber state ('the number rule 128 is applied to replace 'twenty' with '20'", ALLEVA, column 8, lines 23-24);

(v) determining whether the working list module is in the NoCheck state and the word is a numeral ("the first word, 'five,' is processed ... there will be a match within the digit rule 126 for this word", ALLEVA, column 8, lines 5-8); and

(vi) if either (iv) or (v) is true then determining that the word is associated with the expression (see ALLEVA, FIG. 9).

34. Regarding **claim 24**, ALLEVA further teaches that the word is associated with the termination of an expression when the word is a punctuation character ("if a period is followed by a space, two spaces are to be substituted for the single space", column 5, lines 49-52).

35. Regarding **claim 25**, ALLEVA further teaches that the word is associated with the termination of an expression when the word is not present within any of the categories of the dictionary database ("before applying the rule, the text normalizer 38 looks at the next word 'chickens' as there is no rule that applies to the phrase 'five chickens,' the text normalizer 38 knows that it is done", column 8, lines 8-11).

36. Regarding **claim 26**, HUMMEL further teaches that (c) further comprises determining whether the working list module is in the WordInNumber state or NoCheck state by utilizing a context indicia, where said context indicia tracks the contextual state of the working list module (see HUMMEL, column 7, lines 1-51, a series of rules defines the contextual state of the word) (e.g. The contextual state of the word is tracked by viewing the entire token for placeable type determination.).

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gilliam (Us 6,493,662) is cited to disclose a rule-based number parser for spelling out a number. Ejerhed (US 6,385,630) is cited to disclose normalizing case of significant and insignificant words.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paras Shah/
Examiner, Art Unit 2626

04/28/2008

/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2626